



Hartlepool College Case Study

Hartlepool College saves £32k a year and increases student retention with VMware Horizon

Hartlepool College's funding is dependent on student intake and course completion, and its IT offerings are a crucial part of the student experience. In the past, poor IT led to student dropouts, fewer course applications and less funding. Choosing to implement a Virtual Desktop Infrastructure (VDI), with VMware Horizon, the College can now enable its students to enjoy a consistent and reliable IT experience. Login and application loading times have reduced from 20 minutes to less than a minute, while previous sessions of downtime, which could last several days, are now a thing of the past. Students are now more productive when using the IT, improving their overall college experience and increasing the likelihood of them completing the course.

Staff also benefit from the VMware deployment and can access their desktop – including email and vital teaching applications – from home, increasing productivity and flexibility.

The new VDI system also allows the college to make substantial costs savings in maintaining its 1,000 desktops, including over £18k per year in power savings, an estimated £50k over the next five years in VDI maintenance costs (due to the previous system's lack of reliability) and they are able to halve the annual PC repair budget of £10k. Additionally, after cutting the number of help desk calls the IT team has been able to move away from reactive activity, focusing instead on deploying resources into proactive activities – including evaluating more effective and efficient ways of running the college's infrastructure.

Based in the North East of England, Hartlepool College of Further Education has more than 1,500 full-time students – with a further 7,000 in part-time education – and 450 staff. The college has existed since 1897, though it has been located at its current site on Stockton Street since the 1960s. In 2011, the college building was replaced by a modern, purpose-built campus which still occupies the now familiar Stockton Street site in the centre of Hartlepool. ➔



KEY POINTS

Challenge

Hartlepool College of Further Education was looking to significantly improve the student and staff's Virtual Desktop experience, in order to increase student retention, grow prospect numbers and offer remote working for the teaching and administrative staff. Additionally, receiving literally hundreds of complaint calls every week the IT department needed to find a way of improving the system, so that it could spend less time firefighting and more time innovating. It wanted to offer students and staff a smoother desktop performance, improving login times, removing bottlenecks and limiting the frequent system outages.

Solution

Hartlepool College deployed VMware Horizon to offer end users a virtualised desktop solution. This would enable students to access their own applications from any virtual PC in the college, while greatly improving user experience and reliability.





KEY POINTS

The Benefits

- Staff can access college desktops –with all applications– from any location on any device
- Student and staff login time has reduced from around 20 minutes to less than 30 seconds
- Applications can now start up in less than a second – compared to 30 seconds before
- Cut resource demands for maintaining hardware by over 50%
- Oversaw a significant decrease, from over 100 per day to around five, in help desk calls and transforming student's opinion on IT
- Reduced its PC refresh budget from a hefty £100,000 per year to around £20,000 per year for server hardware and less than £25,000 to lease thin client devices
- Saved over £18,000 per year in power savings
- Cut VDI maintenance costs by £10,000 for the next five years
- Able to halve the annual PC repair budget of £10,000

Hartlepool College offers a wide range of courses, including higher education and apprenticeships, in sectors as diverse as construction, health, service industries and sports science.

Organisational Challenges

With responsibility for the entirety of the organisation's IT infrastructure, including the telephone systems, audio-visual equipment and IT hardware and software, Hartlepool College's IT department faced significant pressures. Numbering only eight, the team was constantly in demand to ensure a smooth and productive IT experience across its 1,000 desktop PCs for its students, teaching and admin staff.

Cost & Space Reductions

The IT team was also developing a plan for the IT infrastructure at a new college facility and was tasked with making a number of significant cuts. It needed to make a 20% reduction in the amount of space required for IT, in order to open up more space for student learning. Additionally, in line with the college's green agenda – and increasingly squeezed budgets – the department was also asked to cut down on the level of air conditioning required as well as the general power consumption for hardware.

Finally, due to a drop in government spending, it was becoming increasingly difficult to replace outdated and end-of-life hardware. The IT department would be forced to keep old, outdated PCs running for

longer, often refreshing only a portion of the hardware – or even delaying the refresh by up to a year at a time.

Negative User Feedback

In order to make the necessary cost reductions, the college had already invested in a Virtual Desktop Infrastructure (VDI) system. However, the system that was initially installed was simply not up to the task due to a lack of manufacturer support and poor implementation.

Gerald Nicholson, IT Manager at Hartlepool College explains: "The performance was, in a word, terrible. It was so unreliable and we would often endure several days' worth of network downtime.

"To say that the system was unpopular would be somewhat of an understatement - staff and students hated it. Logging in was a particular cause for complaint as students were forced to wait up to 20 minutes during peak use hours. Even using the applications was a challenge – often we'd have reports that word processing would be unable to keep up with a students' typing, which obviously wasn't good enough. We had frequent software issues, with applications constantly crashing as well as huge issues with sound, video and USB support."

Nicholson continues: "The negative IT experiences were often cited as a factor in students' decisions to drop out. Not only was this exceptionally disheartening for the IT team, but it also represented a threat to our

funding – especially as part of the student funding is withheld until after graduation."

The college did look at improving the existing VDI system – including fully rebuilding the network and investing in new server hardware, but it was all too limited in its success: "No matter what we did the system was simply unable to cope with our college's demands," added Nicholson. "The core software was just not good enough."

Stretching IT Resources

With the entire organisation, from the top down, all using the same system, the IT department was constantly in demand: "All our time was spent putting out fires and attempting to fix broken machines," adds Nicholson. ➔



"We were receiving over a hundred calls to the help desk everyday – the phone never stopped ringing. Obviously this meant we were unable to invest much time in anything beyond day-to-day admin. We couldn't spend time looking at new innovations or developing efficiencies in other areas.

"It's no exaggeration to say that we were spending 90 to 95% of our time simply trying to keep the system usable."

The Solution

Eventually, it became clear that the college would have to replace its original VDI system. Crucially, it wanted to develop a technology solution that would not only be more attractive to prospective students, but would better serve the needs of its current users, making life easier for staff and improving the pupil retention rate.

Additionally, having made numerous hardware investments to try and improve the previous system, the college wanted something that would also be able run over its existing server infrastructure.

Working with Phoenix Software, the IT Team started thinking about investing in VMware. As Nicholson explains, "We had already worked with the VMware technology stack in updating our server infrastructure with vSphere and it had been a great experience, consolidating our server estate and reducing both its cost and complexity. It had been a completely painless process so for us, so it made sense to work with a leader like VMware again."

Phoenix Software took the college's IT team to see what another VMware customer, New College Durham, had achieved through using VMware Horizon, so they could see how it worked in a similar organisation. Nicholson adds:

"After having seen the set up in action, we knew instantly that VMware Horizon had enough power to meet our needs. We made a decision that we wanted the same functionality, to achieve what they had with VMware, pretty much on the spot.

"We went away and put the pilot process in motion with Phoenix Software – even in the testing phase we found that student logins times were reduced to under a minute, so we could tell immediately that we'd made the right decision."

Overall the new system was built in less than six months – including the tender process: "I can't emphasise enough how smooth the process was. Of course it helped that we'd been through a VDI implementation before so we were very familiar with what was going on. Ironically, I think our biggest worry was that we had nothing to worry about! It felt too easy; we were convinced that it couldn't be as easy as it was."

An Improved User Experience for Students and Staff

Deploying VMware Horizon has revolutionised the way IT is viewed within Hartlepool College, transforming the student and staff experience for the better.

"After the VDI solution went live, the first thing we noticed was that our phone stopped ringing – we actually had to check to see if it was plugged in!" says Nicholson. "We went from literally hundreds of complaints and help desk calls to less than a handful each week."

Students have now professed to be much happier with the college's IT system. While login times had been a real area of contention – often taking up to 20 minutes during peak hours – it now only takes a matter of second. Applications have also been sped up, now launching up to 30 times faster.

"VMware Horizon has completely changed our student's relationship with IT and the feedback has been incredible – they can now actually use it to get their work done. Under the old system our desktops would slow down to a crawl during peak times, now they offer a consistently solid performance whatever time of day. And each time a student logs on they are greeted with the same desktop, complete with their own applications," adds Nicholson.

"Not a single student has complained about IT since we implemented Horizon. Our student dropout rate has also been reduced, something that we can directly attribute to our IT investment. We're also expecting to see an increase in prospective students, and we'll be using our high-functioning IT system as a selling point to try and attract the next generation of students."

Staff have also been able to benefit from the use of Horizon and can now work remotely, accessing their desktop – complete with emails and relevant learning applications – from outside the college.

Additionally, staff are now more open to using new IT equipment. As Nicholson explains, "In the past, the performance of the VDI system was so poor that staff would actually ask us to provide one of the older outdated PCs rather than a VDI connected device. Now they are all requesting the VMware-connected terminals.

"We can also respond quicker to requests from lecturers and teaching staff. We would often be asked to apply applications to a whole suite of PCs with just an hour or two before the lesson was about to begin. Under the old system, there was no way we could do that. It could actually take months to do and required us to update each PC manually. Now, as long as it's a virtualised application, we can do it in minutes." ➔

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Gerald Nicholson, IT Manager at Hartlepool College



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A More Reliable System

Moreover, by implementing VMware Horizon the IT system is far more robust, with outages significantly reduced. Under the previous system outages lasting up to two or three days were not uncommon. "We're yet to experience any issues with the VMware solution," says Nicholson. "Even when we made the switchover from the old solution to the new one, everything went off without a hitch."

"Moving to VMware has aided a number of previous pain points – for example by installing Fusion-io on vSphere we no longer see any network bottleneck."

An Easier Life for the IT Department

Nicholson also cited the value that Horizon has delivered for the IT team itself:

"Horizon is not another system that we have to try and manage; it works perfectly with our server set up so everything is much simpler and more streamlined. While the old system required highly complex Linux command line input, we can now control everything in vSphere – a system we are very familiar with and enjoy using."

There is also a cost saving to factor in, with VMware's VDI solution allowing the college

to reduce its PC refresh budget from a hefty £100,000 per year to around £20,000 per year for server hardware and less than £25,000 to lease thin client devices. And as predicted, the college has also saved money in cabling bills as well as £18,000 in power consumption from both the machines and the associated air conditioning. Additionally, there has been an estimated £50,000 saving in VDI maintenance costs (over the next five years).

Furthermore, Horizon has enabled the IT team to change the way it operates – placing more time and resource in to improving the systems and creating efficiencies. Nicholson explains: "We're more mobile as an IT Team. With Horizon, we can login and reboot servers from home or remote locations, meaning that we don't have to be on site to manage the system, and we can provide updates out of working hours, which is critical for students who need access to their applications over the weekend and evenings."

"And as the volume of help desk calls has decreased we are no longer a reactive team desperately trying to put out multiple fires. We can be more strategic in how we operate. We have begun to assign specific specialist roles to our technicians, allowing the team to develop real expertise in their own areas of interest. This in turns allows for greater cross training, helping all of our staff add to their skill sets."

The Future

Hartlepool College also has plans to continue working with VMware in the future:

"We'd like to roll out the remote working capabilities to students as well as staff at some point," says Nicholson. "More pressing, the current vSphere environment is now over five years old so we're planning to refresh the server side hardware."

"Beyond that we'll be looking at a backup strategy, some anti-virus integration as well as investing in VMware's vRealize Operations technology. Whatever happens, we'll be looking for technology that will fit best with our current VDI set-up."

NEXT STEPS

For further information on the products and services available from Phoenix Software, contact a member of our team on:

t: 01904 562200

e: info@phoenixs.co.uk

w: www.phoenixs.co.uk

